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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,091	06/04/2001	Deborah Charych	1680.002	6042
7590 12/03/2007				
Chiron Corporation Intellectual Property Law Department Mail Stop R-3 PO Box 8097 Emeryville, CA 94662			EXAMINER SHIBUYA, MARK LANCE	
			ART UNIT 1639	PAPER NUMBER
			MAIL DATE 12/03/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/874,091	<b>Applicant(s)</b> CHARYCH ET AL.	
	<b>Examiner</b> Mark L. Shibuya, Ph.D.	<b>Art Unit</b> 1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1, 60-73, 79-91 and 97-101 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 60-73, 79-91 and 97-101 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1, 60-73, 79-91 and 97-101 are pending and examined.
2. The examiner of record has changed.

### **Former Final Rejections Reversed**

3. In the Decision of the Board of Patent Appeals and Interferences, mailed 11/08/2007, (hereinafter "Decision"), the final rejections on appeal were reversed completely, (Decision at p. 10).

### **Reopening of Prosecution**

4. Prosecution on the merits of this application is reopened on claims 1, 60-73, 79-91 and 97-101, which are considered unpatentable for the reasons indicated below:

The MPEP, in part, states:

If the examiner has specific knowledge of the existence of a particular reference or references which indicate nonpatentability of any of the appealed claims as to which the examiner was reversed, he or she should submit the matter to the Technology Center (TC) Director for authorization to reopen prosecution under 37 CFR 1.198 for the purpose of entering the new rejection. See MPEP § 1002.02(c) and MPEP § 1214.07. The TC Director's approval is placed on the action reopening prosecution.

MPEP at 1214.04.

The examiner finds that the claims are not patentable over rejections under 35 U.S.C. 112, second paragraph, and the judicially created doctrine of non-statutory,

obviousness-type double patenting. Therefore the examiner has submitted the matter to the Technology Center Director for authorization to reopen prosecution with new grounds of rejection, (see, Conclusion below).

The instant examiner is respectfully mindful that the MPEP, in part, states:

The examiner should never regard such a reversal as a challenge to make a new search to uncover other and better references. This is particularly so where the application or ex parte reexamination proceeding has meanwhile been transferred or assigned to an examiner other than the one who rejected the claims leading to the appeal. The second examiner should give full faith and credit to the prior examiner's search.

MPEP at 1214.04.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 60-65, 69-72, and 79-91 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 60, (and its dependent claims), recites the limitation "the oxide" in line 2-3.

There is insufficient antecedent basis for this limitation in the claim.

Claim 69 recites the limitations "a silicon dioxide-coated aluminum layer" and "a substantially planar glass surface" in lines 2 and 2-3, respectively and "a biotin substrate anchoring segment", a peptoid protein-binding segment" and "an orthogonal peptide linker segment". There are uncertain antecedent bases for these limitations in the

claim, because it is unclear as to whether these terms are the same as and refer to "the aluminum coated with a silicon dioxide coating" and "a glass base material", in lines 4-5 and 4 of claim 1, respectively, and "an anchoring segment", a peptidomimetic protein-binding segment" and "a linker segment", found in lines 6-9, of claim 1.

Claim 71 recites the limitations "a silicon dioxide-coated aluminum layer" and "a substantially planar glass surface" in lines 2 and 2-3, respectively and "a biotin substrate anchoring segment", a peptoid protein-binding segment" and "an orthogonal peptide linker segment". There are uncertain antecedent bases for these limitations in the claim, because it is unclear as to whether these terms are the same as and refer to "the aluminum coated with a silicon dioxide coating" and "a glass base material", in lines 4-5 and 4 of claim 1, respectively, and "an anchoring segment", a peptidomimetic protein-binding segment" and "a linker segment", found in lines 6-9, of claim 1.

Claim 79, (and its dependent claims), recites the limitation "the oxide" in line 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 83 appears to recite improperly a Markush group, which should have the form of "the group consisting of . . . and . . ." or should list the elements in the alternative, the final element separated from the penultimate element by the connector "or".

Claim 88 recites the limitations "a silicon dioxide-coated aluminum layer" and "a substantially planar glass surface" in lines 2 and 2-3, respectively and "a biotin substrate anchoring segment", a peptoid protein-binding segment" and "an orthogonal peptide linker segment". There are uncertain antecedent bases for these limitations in the

claim, because it is unclear as to whether these terms are the same as and refer to "the aluminum coated with a silicon dioxide coating" and "a glass base material", in lines 4-5 and 4 of claim 1, respectively, and "an anchoring segment", a peptidomimetic protein-binding segment" and "a linker segment", found in lines 6-9, of claim 1.

Claim 90 recites the limitations "a silicon dioxide-coated aluminum layer" and "a substantially planar glass surface" in lines 2 and 2-3, respectively and "a biotin substrate anchoring segment", a peptoid protein-binding segment" and "an orthogonal peptide linker segment". There are uncertain antecedent bases for these limitations in the claim, because it is unclear as to whether these terms are the same as and refer to "the aluminum coated with a silicon dioxide coating" and "a glass base material", in lines 4-5 and 4 of claim 1, respectively, and "an anchoring segment", a peptidomimetic protein-binding segment" and "a linker segment", found in lines 6-9, of claim 1.

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1, 60-73, 79-91 and 97-101 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of U.S.

Patent No. 7153682 B2.

Although the conflicting claims are not identical, they are not patentably distinct from each other.

The instant claims are drawn to an array of protein-binding agents stably attached to the surface of a solid support, said array comprising: a solid substrate having a substantially planar surface comprising a layer of aluminum formed on a glass base material, the aluminum coated with a silicon dioxide coating having a thickness of between about 200 and 900Å; a plurality of different protein-binding agents bound to said substrate, each of said protein-binding agents comprising, an anchoring segment stably bound to the substrate surface, a peptidomimetic protein-binding segment, and a linker segment connecting and separating the anchoring and peptidomimetic segments; and variations thereof.

Claims 1-18 of U.S. Patent No. 7153682 B2, (hereinafter "682 Patent"), are drawn to an array of protein-binding agents stably attached to the surface of a solid substrate, said array comprising: a solid substrate having a substantially planar surface

comprising an organic chemically-modified dielectric-coated reflective metal; a plurality of protein-binding agents bound to said substrate, each of said protein-binding agents comprising, an anchoring segment stably bound to the substrate surface, a peptidomimetic protein-binding segment, and a linker segment connecting and separating the anchoring and peptidomimetic segments; and a di-thiol modified polyethylene glycol non-protein chemical blocking agent and a protein blocking agent bound to the substrate surface not occupied by protein-binding agent array elements bound to the substrate surface.

Claim 3 of the '682 Patent is drawn to the array comprising a dielectrically coated reflective metal on glass surface, wherein the metal is aluminum. Claim 4 is drawn to the array wherein the dielectric coating is silicon dioxide. Claim 16 is drawn to a kit containing a substantially similar array, wherein the silicon dioxide coating is about 800 angstrom thick.

Therefore, the examiner respectfully submits that the claims of the '682 Patent anticipate and/or make obvious the instant claims.

It is noted that the '682 Patent is not terminally disclaimed.

9. Claims 1, 60-73, 79-91 and 97-101 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-34 of U.S. Patent No. 7148058 B2.



Although the conflicting claims are not identical, they are not patentably distinct from each other.

The instant claims are drawn to an array of protein-binding agents stably attached to the surface of a solid support, said array comprising: a solid substrate having a substantially planar surface comprising a layer of aluminum formed on a glass base material, the aluminum coated with a silicon dioxide coating having a thickness of between about 200 and 900Å; a plurality of different protein-binding agents bound to said substrate, each of said protein-binding agents comprising, an anchoring segment stably bound to the substrate surface, a peptidomimetic protein-binding segment, and a linker segment connecting and separating the anchoring and peptidomimetic segments; and variations thereof.

Claims 1-34 of U.S. Patent No. 7148058 B2, (hereinafter "058 Patent"), are drawn to a microarray, reading on an array, comprising: a solid substrate having a substantially planar surface comprising an organic chemically-modified dielectric-coated reflective metal; a plurality of array elements comprising proteins stably attached to the substrate surface; and a di-thiol modified polyethylene glycol non-protein chemical blocking agent and a protein blocking agent bound to the substrate surface not occupied by protein-binding agent array elements bound to the substrate surface; and variations thereof.

Claim 3 is drawn to the microarray wherein the proteins are indirectly attached to the substrate via a chemical adapter, which reads on a linker segment. Claims 4 and 5 are drawn to the microarray, wherein the reflective metal is aluminum. Claims 6 and 7

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are drawn to the microarray wherein the dielectric comprises silicon dioxide about 800 angstroms thick. Claims 11 and 12 are drawn to the microarray wherein the non-metallic solid substrate is glass. Claim 17 is drawn to the microarray wherein the adapter, which reads on the linker of the instant claims, comprises a homobifunctional organic linker that stably attaches to the substrate surface at one terminus and to a functional group on the proteins on the other terminus. Claim 27 is drawn to the microarray, wherein the protein-binding functional group is glutathione, which describes or makes obvious the "peptidomimetic" of the instant claims, and the attached proteins are GST-protein fusions. It is well-known in the art that glutathione is a tripeptide, as evidenced by, e.g., US Patent 3,864,085 A, at col. 1.

Therefore, the examiner respectfully submits that the claims of the '058 Patent anticipate and/or make obvious the instant claims.

It is noted that the '058 Patent is terminally disclaimed over 10/190,308, filed 7/3/2002, now the '682 Patent.

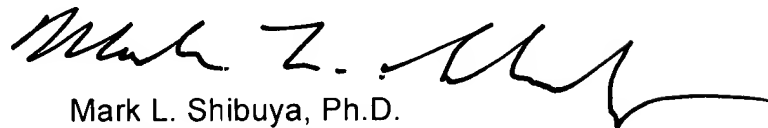
### ***Conclusion***

10. Claims 1, 60-73, 79-91 and 97-101 are pending and examined.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Shibuya, whose telephone number is (571) 272-0806. The examiner can normally be reached on M-F, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Doug Schultz can be reached on (571) 272-0763. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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